# 2.5 IMPACT OF DMC (DIRECT SEEDING ON MULCH CROPPING SYSTEMS) ON THE SOIL MACROFAUNA COMMUNITIES STRUCTURE IN SAKON NAKHON PROVINCE, THAILAND.

Johnny Boyer*, Phakphoom Tantachasatid**,
Sornprach Thanisawanyangkura ** and Lucien Seguy*

* Cirad
** Kasetsart University, Bangkok Thailand

## Abstract

Soil organisms are not just inhabitants of the soil, they are part of the soil, heavily influencing soil properties (chemical, physical and biological properties), all of which are essential for primary production and the decomposition of organic residues. The impact of the conversion of traditional agricultural practices into practices more sensitive to the soil protection was studied through the changes in the community structure of the soil macrofauna. Soil macrofauna are sensitive to land use changes and this may have implications to soil functioning. The presence of abundant and diverse communities of macro-invertebrates was thus considered as a factor of sustainability in agro-ecosystems. This work focused primarily on the effect of direct seeding in mulch cropping systems (DMC) on the soil macrofauna community in Sakon Nakhon Province, Thailand. Secondarily, it was also a question of seeing their impact on soil microflora through the study of the soil respiration. In comparison with the conventional practice (ploughed bare soil) and the natural ecosystem (degraded forest), we observe globally an increase of the total mean density and biomass of the soil macrofauna under DMC systems. The strong observed densities are mainly due to the presence of the social insects. Differences are also observed in the respiratory activities of the soil.